

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/286,119 04/02/99 GOFFI

I ITALO-ET-AL-

IM52/1107

EXAMINER

COLLARD & ROE
1077 NORTHERN BOULEVARD
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LORENZO, J

ART UNIT PAPER NUMBER

1734

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/286,119	GOFFI ET AL.
	Examiner Jerry A. Lorendo	Art Unit 1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 October 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 12-21 is/are pending in the application.
 - 4a) Of the above claim(s) 21-29 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 12-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

(1)

Election/Restrictions

Applicant's election with traverse of claims 12-21 in Paper No. 14 is acknowledged. Although the applicant requests that the restriction requirement be withdrawn and than an action on the merits of all of the claims be rendered, the applicant sets forth no specific arguments against the restriction requirement. The examiner respectfully submits that because the inventions have been shown to be distinct for the reasons given in the paper mailed to the applicant on September 5, 2001 and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes is proper and is made FINAL.

(2)

Claim Objections

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Independent claim 12 discloses "... a sublimable colour transfer support, having the form of a sheet..." Claim 20, which drawn dependence upon claim 12, discloses, "... wherein said transfer support has the form of a sheet...". Claim 20, therefore, fails to further limit the subject matter of claim 12.

(3)

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "tight-covering" in claims 12 and 13 is a relative term which renders the claims indefinite. The term "tight-covering" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would

not be reasonably apprised of the scope of the invention. The term "tight-covering" renders the claim indefinite because it is not understood to what degree the "artefact" is covered. Claims 14-21 are likewise rejected due to their dependence upon rejected base claims 12 and 13.

Regarding claim 14, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 15 and 16, the phrase "realizable with" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 17 recites the limitation "the handling and/or installation" in lines 3 and 4 of claim 17. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 19, the phrase "i.e." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

(4)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,314,814 to Deroode.

Regarding applicant claims 12 and 20, Deroode discloses a method for the thermal sublimation transfer decoration of three-dimensional substrates comprising the steps of:

(1) Providing a substrate 10 to be decorated onto a work bench means 30,31,32 (column 6, lines 8-34);

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(2) providing a sublimable color transfer support comprising a flexible and thermally deformable polymeric support skin 15 on which is carried a sublimable color pattern 16 (column 4, lines 31-65; column 5, lines 51-59);

(3) contacting (covering) the sublimable color transfer support 15,16 in the form of a sheet against the substrate 10 held on work bench means 30,31,32 within a vacuum chest means 20 and creating a vacuum between the substrate 10 and the sublimable color transfer support 15,16 by way of vacuum chest means 20 thereby forcing sublimable color transfer support 15,16 into intimate contact with the substrate 10 (column 5, lines 56-66; column 6, lines 3-37);

(4) heating the sublimable color transfer support 15,16 and substrate 10 while under intimate vacuum contact by way of heating means 38 located above the work bench means 30,31,32 thereby causing said sublimable pattern to sublimate, penetrate, and thereby decorate substrate 10 at a temperature of about 200 C for a period of about 30 seconds (column 4, lines 15-16; column 7, lines 4-36; column 7, line 40); and

(5) after transfer and ceasing of the heat application, separating the decorated substrate 10 from the spent sublimable color transfer support 15,16 (column 7, lines 45-48).

(5)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,314,814 to Deroode, as set forth in section (4), above, in view of U.S. Patent No. 4,411,667 to Meredith et al.

Although Deroode, in section (4), above, discloses a method for the sublimation transfer decoration of a substrate by way of a heat and vacuum pressure, he does not specifically disclose, as per applicant claims 14, 15 and 16, that the substrate to be decorated is preliminarily surface

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treated (cleaned, de-greased, etc.) or painted before it is advanced to the step of sublimation transfer.

The transfer sublimation printing of coated and cured metal substrates, however, is known, such as disclosed by Meredith et al. In his method, Meredith et al. teaches a method of transfer printing wherein a length of metal strip is coated with a thermosetting material, e.g. an alkyd, polyester, polyurethane, or epoxy paint, and brought into contact after curing with a strip of printed sublimation material (abstract). He also discloses that the paint may in turn be surfaced with a thermosetting lacquer, i.e., a transparent paint (column 1, lines 21-22).

Therefore, in the case of metal object to be decorated, for example, and especially by way of sublimation printing, it would have been obvious to one of ordinary skill in the art to pretreat a substrate by painting as well as by transparent protective over coating, prior to transfer decoration, as taught by Meredith et al. motivated by the fact that it is well known in the art that sublimation transfer printing requires a substrate which presents a surface into which the sublimation print may diffuse. This is especially true with respect to metal, glass, and ceramic substrates.

Furthermore, it would have also been obvious to one of ordinary skill in the art to pre-treat the surface of the substrate (such as by cleaning, de-greasing, abrading, oxidative coating, etc.) prior to the application of any paints or lacquers motivated by the fact that the skilled artisan would have appreciated the importance of supplying a substrate with a surface amenable to painting or coating, i.e., a surface free from dirt, grime, grease, or other surface defects which would decrease the effectiveness of coating or paints applied thereto.

(6)

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,314,814 to Deroode, as set forth in section (4), above, or, in the alternative, over the references as combined in section (5), above.

Although Deroode, as set forth in sections (4) and (5), above, discloses a method for the sublimation transfer decoration of a substrate by way of a heat and vacuum pressure, he does not specifically disclose, as per applicant claim 19, that the artifact is vacuum wrapped and heated in a preliminary step prior to transfer in order to achieve thermoforming of the sublimable color transfer support against the substrate to be decorated.

Deroode, however, does disclose that the sublimable color transfer support is preheated prior to its vacuum placement against the substrate followed by intimate contact by the application of vacuum pressure followed by continued heating in order to bring about complete sublimation transfer of the decoration from the sublimable color transfer support to the substrate (column 7, lines 1-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to supply a separate and preliminary heating and vacuum wrapping step prior to the actual heat and vacuum transfer motivated by the fact that the preliminary heating of the sublimable color transfer support would render it more flexible (as it is a thermoplastic) thus ensuring intimate contact between it and the substrate to be decorated and thereby increase the effectiveness of the sublimation transfer itself.

(7)

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,314,814 to Deroode, as set forth in section (4), above, or, in the alternative, over the references as combined in section (5), above, in further view of U.S. Patent No. 4,923,847 to Ito et al.

Deroode, as set forth in sections (4) and (5), above, discloses a method for the sublimation transfer decoration of a substrate by way of a heat and vacuum pressure. Although he discloses that the support film 15 making up the sublimable color transfer support may be comprised of materials such as polypropylene, polyester, silicone, and polycarbonic materials such as PTFE (column 4, lines 18-20), he does not specifically disclose, as per applicant claim 18, that the support material 15 is composed of polyvinyl alcohol.

Ito et al., however, also drawn to thermal sublimation transfer methods, discloses a sublimable color transfer support which comprises support or base film 1 on which is carried a sublimable transfer dye. Ito et al. discloses that the base film 1 may comprise papers or films such as condenser paper, aramide film, polyester film, polystyrene film, polysulfone film, polyimide film, ***polyvinyl alcohol film*** (emphasis added), and cellulose films (column 4, lines 65-68; column 5, line 1; Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize a polyvinyl alcohol film, as taught by Ito et al. in place of the films (polyester, etc.) disclosed by Deroode motivated by the fact that Ito et al. discloses that polyvinyl

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alcohol films are known for use as supports for sublimation transfer films and furthermore by the fact that Deroode discloses that it is self-evident that other materials besides those disclosed by him may be used (column 4, lines 21-23).

(8)

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,314,814 to Deroode, as set forth in section (4), above.

Although Deroode, as set forth in section (4), above, discloses a method for the sublimation transfer decoration of a substrate by way of a heat and vacuum pressure, he does not specifically disclose, as per applicant claim 17, that the exhausted transfer support 15 is removed from the decorated surface of the substrate 10 after the handling and/or installation of the decorated substrate.

It would have been obvious to one of ordinary skill in the art at the time of invention, however, to remove the exhausted transfer support from the decorated substrate after cooling and just prior to ultimate use by an end user motivated by the fact process films and sheets are commonly left attached to manufactured articles, especially articles having surfaces which can be scratched, dinged, scuffed or marred during transport between the points of initial manufacture and end use.

(9)

Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,893,964 to Claveau in view of U.S. Patent No. 4,314,814 to Deroode.

Regarding applicant claim 13, Claveau discloses a method for the thermal sublimation transfer decoration of three-dimensional substrates comprising the steps of:

- (1) Providing a substrate 2 to be decorated;
- (2) providing, as per applicant claim 21, two sublimable color transfer support membrane sheets 8a,8b comprising a flexible and thermally deformable polymeric support skin on each of which is carried an inker 3,3' comprising a support having a sublimable color pattern thereon (Figure 12; column 4, lines 16-37; column 2, lines 18-23);
- (3) placing the substrate 2 between the membrane sheets 8a,8b and carried inkers 3,3' and welding the borders of each of the membrane sheets 8a,8b to form a sealed pouch 8 but leaving

an aperture 8d which will allow the connecting of the pouch 8 to a vacuum source (column 4, lines 35-42);

(4) creating a vacuum between the substrate 2 and the sublimable color transfer supports (inkers) 3,3' carried on the pouch 8 by way of vacuum means thereby forcing the sublimable color transfer supports 3,3' carried on the pouch 8 into intimate contact with the substrate 2 (Figures 13 and 14; column 4, lines 43-49); and

(4) heating the sublimable color transfer supports 3,3' carried on the pouch 8 and substrate 2 while under intimate vacuum contact by way of heating means thereby causing said sublimable pattern to sublimate, penetrate, and thereby decorate substrate 2 at a temperature of about 200° C for a amount of time sufficient to ensure complete transfer (column 4, lines 16-20).

Although Claveau discloses the step of heating at a temperature of about 200° C, he does not specifically discloses the claimed time period of heating (30 seconds) set forth in applicant claim 13. Although Claveau discloses the steps of wrapping, evacuating and heating, he does not specifically disclose, as per applicant claim 13, the step of removing, after cooling, the exhausted supporting membrane pouch 8 and carried inkers 3,3' from the decorated surface of the substrate 2.

It would have been obvious to one of ordinary skill in the art at the time of invention to remove the spent transfer support (pouch) of Claveau from the decorated substrate 2 after transfer motivated by the fact that Deroode, also drawn to methods for the sublimation thermal transfer of three-dimensional objects by way of vacuum assisted thermal transfer discloses that it is known to separate the decorated substrate 10 from the spent sublimable color transfer support 15,16 after transfer (column 7, lines 45-48). Finally, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the claimed transfer times and temperatures set forth in applicant claim 13 motivated by the fact that Deroode also discloses that heating the sublimable color transfer support 15,16 and substrate 10 while under intimate vacuum contact by way of heating means 38 at a temperature of about 200°C for a period of about 30 seconds is known in the art (column 4, lines 15-16; column 7, lines 4-36; column 7, line 40).

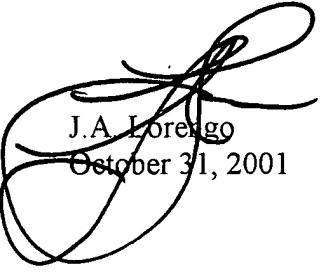
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(10)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A. Lorengo whose telephone number is (703) 306-9172. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


J.A. Lorengo
October 31, 2001